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Peter Dwight Spohn

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EXAMINER

LEUNG, PHILIP H

ART UNIT

PAPER NUMBER

3742

MAIL DATE

DELIVERY MODE

10/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

58

**Supplemental
Notice of Allowability**

Application No.

10/730,173

Examiner

Philip H. Leung

Applicant(s)

SPOHN ET AL.

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Fax Communication received 9-25-2007.
2. ☒ The allowed claim(s) is/are 1,2,4-21,34,40-50 and 54-71.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

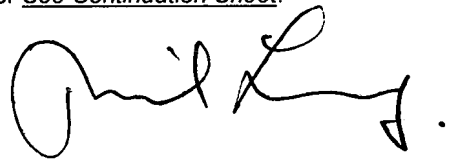
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet.



Continuation of Attachment(s) 9. Other: Copy of Correctly Numbered Claim Set.

Claim Amendments:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A heating belt comprising:
a flexible support comprising a fabric, the fabric being a woven fabric or an intermeshing of random fibrous strands; and
a composite material coated on the flexible support, the composite material comprising a polymer and inductively-heatable particles.
2. (Original) The heating belt of claim 1, wherein the polymer forms a matrix phase in which the inductively-heatable particles are distributed.
3. (Canceled)
4. (Original) The heating belt of claim 1, wherein the inductively-heatable particles comprise ferromagnetic particles.
5. (Previously Presented) The heating belt of claim 1, wherein the inductively-heatable particles are selected from a group consisting of SrF, zirconium alloy, and compounds stoichiometrically having two divalent cations combined with one of $\text{Ba}_1\text{Fe}_{16}\text{O}_{26}$, $\text{Ba}_2\text{Fe}_{12}\text{O}_{22}$, and $\text{Ba}_3\text{Fe}_{24}\text{O}_{41}$.
6. (Original) The heating belt of claim 5, wherein the divalent cations are selected from the group consisting of Mg, Co, Mn, and Zn.
7. (Original) The heating belt of claim 1, wherein the inductively-heatable particles have a Curie temperature.
8. (Original) The heating belt of claim 7, wherein the Curie temperature of the inductively-heatable particles is between 60 °C and 325 °C.

9. (Original) The heating belt of claim 1, wherein the inductively-heatable particles comprise between about 10 volume percent and about 50 volume percent of the composite material.

10. (Original) The heating belt of claim 1, wherein the polymer has a carbon-based chain structure or a silicone based chain structure.

11. (Previously Presented) The heating belt of claim 1, wherein the polymer has a carbon-based chain structure and is selected from the group consisting of poly(etheretherketone) (PEEK), polyetherketoneketone (PEKK), poly(etherimide) (PEI), polyphenylene sulfide (PPS), poly(sulfone) (PSU), polyethylene terephthalate (PET), polyester, polyamide (PA), polypropylene (PP), polyurethane (PU), polyphenylene oxide (PPO), polycarbonate (PC), PP/mxd, PP/ethylene vinyl alcohol (EVOH), polyethylene (PE), fluorinated ethylene propylene (FEP), polytetrafluoroethylene (PTFE), polyimide, polyamide-imide (PAI), tetrafluoroethylene (TFE), hexafluoropropylene (HFP), perfluoropropyl or perfluoromethyl vinyl ether, homo and copolymers having chlorotrifluoroethylene (CTFE), homo and copolymers having vinylidene fluoride (VF₂), homo and copolymers having vinyl fluoride (VF), and combinations thereof.

12. (Original) The heating belt of claim 1, wherein the polymer comprises a polyimide.

13. (Original) The heating belt of claim 1, wherein the polymer comprises a fluorinated polymer.

14. (Original) The heating belt of claim 13, wherein the fluorinated polymer comprises at least one material from the group consisting of polytetrafluoroethylene (PTFE) and fluorinated ethylene propylene (FEP), perfluoroalkoxy (PFA), and combinations thereof.

15. (Original) The heating belt of claim 1, wherein the polymer comprises silicone.

16. (Previously Presented) The heating belt of claim 1, wherein the fabric is a woven fabric.

17. (Previously Presented) The heating belt of claim 1, wherein the fabric includes polymer fibers selected from the group consisting of aramids and polyesters.

18. (Original) The heating belt of claim 1, wherein the heating belt is a closed loop belt.

19. (Original) The heating belt of claim 1, wherein the heating belt is a cooking belt.

20. (Original) The heating belt of claim 1, wherein the heating belt is an industrial sealing belt.

21. (Original) The heating belt of claim 20, wherein the industrial heating belt is a side sealing belt.

Claims 22-33 (Canceled)

34. (Previously Presented) A heating component comprising:
a flexible support comprising a fabric, the fabric being a woven fabric or an intermeshing of random fibrous; and
a composite material coated on the flexible support, the composite material comprising a silicone polymer and inductively-heatable particles.

Claims 35-39 (Canceled)

40. (Previously Presented) A system for heating an article, the system comprising:
a heating belt comprising:

a flexible support comprising a fabric, the fabric being a woven fabric or an intermeshing of random fibrous strands; and
a composite material coated on the flexible support, the composite material comprising a polymeric matrix and inductively-heatable particles; and
a field generator for inducing a field about the heating belt to heat the inductively-heatable particles.

41. (Original) The system of claim 40, wherein the article is a food item.
42. (Original) The system of claim 40, wherein the article is a package.
43. (Original) The system of claim 40, wherein the system is an industrial side sealing apparatus.
44. (Original) The system of claim 40, wherein the system is an industrial grill.
45. (Previously Presented) A method for heating an article, the method comprising:
placing the article in proximity to a heating belt, the heating belt comprising a flexible support comprising a fabric, the fabric being a woven fabric or an intermeshing of random fibrous strands, and a composite material coated on the flexible support, the composite material comprising a polymeric matrix and inductively-heatable particles; and
inducing a field about the heating belt, the inductively-heatable particles heating in the presence of the field, thereby heating the article.
46. (Original) The method of claim 45, wherein the article is on the heating belt.
47. (Original) The method of claim 45, wherein the article is a food item.
48. (Original) The method of claim 45, wherein the article is a package.
49. (Original) The method of claim 45, wherein the flexible support comprises glass fibers.
50. (Original) The method of claim 45, wherein the polymer matrix is a fluorinated polymer, silicone, or polyimide.

Claims 51-53 (Canceled)

54. (Previously Presented) The heating belt of claim 1, wherein the fabric comprises the polymer fibers, the polymer fibers including high temperature capable thermosetting resin.

55. (Previously Presented) The heating belt of claim 54, wherein the high temperature capable thermosetting resin includes polyimide.

56. (Currently Amended) A heating belt forming a continuous loop and having an inner side and an outer side, the heating belt comprising:
a flexible support comprising a fabric; and
a composite material coated on a first side of the flexible support and located on forming the outer side of the heating belt ~~relative to the flexible support~~, the composite material comprising a polymer and inductively-heatable particles; and
a material on a second side of the flexible support and forming the inner side of the heating belt located toward the inner side of the heating belt relative to the flexible support, the material comprising inductively heatable particles or comprising an insulating material.

57. (Previously Presented) The heating belt of claim 56, wherein the material is the insulating material.

58. (Previously Presented) The heating belt of claim 56, wherein the fabric is a woven fabric.

59. (Previously Presented) The heating belt of claim 56, wherein the polymer is a silicone.

60. (Currently Amended) The heating belt of claim 56, further comprising a polymer layer overlying the composite material ~~toward the outer side of the heating belt~~.

61. (Currently Amended) A heating belt forming a continuous loop and having an inner side and an outer side, the heating belt comprising:
a flexible support comprising a fabric;

a composite material coated on a first side of the flexible support and located on forming the outer side of the heating belt ~~relative to the flexible support~~, the composite material comprising a polymer and inductively-heatable particles; and
a coating material coated on a second side of the flexible support and located on forming the inner side of the heating belt ~~relative to the flexible support~~, the coating material being free of inductively heatable particles.

62. (Currently Amended) The heating belt of claim 61, further comprising a polymer layer overlying the composite material ~~on the outer side of the heating belt~~.

63. (Previously Presented) The heating belt of claim 62, wherein the polymer layer includes silicone.

64. (Currently Amended) The heating belt of claim 61, further comprising an insulting material adjacent to the coating material on the inner side of the heating belt.

65. (Previously Presented) The heating belt of claim 61, wherein the polymer comprises silicone.

66. (Currently Amended) The heating belt of claim 1, wherein the heating belt forms a continuous loop and forms an inner side and an outer side, wherein the composite material is coated on a first side of the flexible support and forms the outer side of the heating belt ~~relative to the flexible support~~.

67. (Currently Amended) The heating belt of claim 66, further comprising a material on a second side of the flexible support and forming ~~located on the inner side of the heating belt relative to the flexible support~~.

68. (Previously Presented) The heating belt of claim 67, wherein the material includes a polymer and is free of inductively heatable particles.

69. (Currently Amended) The heating belt of claim 67, wherein the material is coated on the second side of the flexible support.

70. (Previously Presented) The heating belt of claim 67, wherein the material includes insulating material.

71. (Previously Presented) The heating belt of claim 1, wherein the fabric is a textile based on a thermally stable reinforcement selected from the group consisting of fiberglass, graphite, and polyaramid.